SAMSUNG

SERIES 4 5
4000
5000
LT28D310NH

LED TV
user manual

Figures and illustrations in this User Manual are provided for reference only and may differ from actual product appearance. Product design and specifications may be changed without notice.

Important Warranty Information Regarding Television Format Viewing

Wide screen format LED Displays with aspect ratios of 16:9 (the ratio of the screen width to screen height) are primarily designed to display wide screen format full-motion video. The images displayed on them should primarily be in the wide screen 16:9 ratio format, or expanded to fill the screen if your model offers this feature and the images are constantly moving. Displaying stationary graphics and images on screen, such as the dark sidebars on non- expanded standard format television video and programming, should be limited to no more than 5% of the total television viewing per week. Additionally, viewing other stationary images and text such as stock market crawls, video game displays, station logos, web sites or computer graphics and patterns, should be limited as described above for all televisions. Displaying stationary images that exceed the above guidelines can cause uneven aging of LED Displays that leave subtle, but permanent burned-in ghost images in the LED picture. To avoid this, vary the programming and images, and primarily display full screen moving images, not stationary patterns or dark bars. On LED models that offer picture sizing features, use these controls to view different formats as a full screen picture. Be careful in the selection and duration of television formats you use for viewing. Uneven LED aging as a result of format selection and use, as well as burned-in images, are not covered by your Samsung limited warranty.

- SAMSUNG ELECTRONICS NORTH AMERICAN LIMITED WARRANTY STATEMENT

Subject to the requirements, conditions, exclusions and limitations of the original Limited Warranty supplied with Samsung Electronics (SAMSUNG) products, and the requirements, conditions, exclusions and limitations contained herein, SAMSUNG will additionally provide Warranty Repair Service in the United States on SAMSUNG products purchased in Canada, and in Canada on SAMSUNG products purchased in the United States, for the warranty period originally specified, and to the Original Purchaser only.

The above described warranty repairs must be performed by a SAMSUNG Authorized Service Center. Along with this Statement and the Original Limited Warranty Statement, a dated Bill of Sale as Proof of Purchase must be presented to the Service Center. Transportation to and from the Service Center is the responsibility of the purchaser. Conditions covered are limited only to manufacturing defects in material or workmanship, and only those encountered in normal use of the product. Exclusions include, but are not limited to, any originally specified provisions for in-home or on-site services, minimum or maximum repair times, exchanges or replacements, accessories, options, upgrades, or consumables.

For the location of a SAMSUNG Authorized Service Center, please call toll-free:
– In the United States : 1-800-SAMSUNG (1-800-726-7864)
– In Canada : 1-800-SAMSUNG

Still image warning

Avoid displaying still images (such as jpeg picture files) or still image elements (such as TV channel logos, panorama or 4:3 image format, stock or news bars at screen bottom etc.) on the screen. Constant displaying of still pictures can cause ghosting of LED screen, which will affect image quality. To reduce risk of this effect, please follow below recommendations:

- Avoid displaying the same TV channel for long periods.
- Always try to display any image on full screen, use TV set picture format menu for best possible match.
- Reduce brightness and contrast values to minimum required to achieve desired picture quality, exceeded values may speed up the burnout process.
- Frequently use all TV features designed to reduce image retention and screen burnout, refer to proper user manual section for details.

Securing the Installation Space

Keep the required distances between the product and other objects (e.g. walls) to ensure proper ventilation.

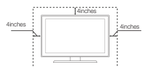
Failing to do so may result in fire or a problem with the product due to an increase in the internal temperature of the product.

When using a stand or wall-mount, use parts provided by Samsung Electronics only.
- If you use parts provided by another manufacturer, it may result in a problem with the product or an injury due to the product falling.

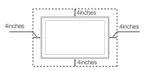
The appearance may differ depending on the product.

Be careful when you contact the TV because some parts can be somewhat hot.

Installation with a stand.



Installation with a wall-mount.



Contact SAMSUNG WORLDWIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

Country	CANADA	U.S.A
Address	Samsung Electronics Canada Inc., Customer Service 55 Standish Court Mississauga, Ontario L5R 4B2 Canada	Samsung Electronics America, Inc. 85 Challenger Road Ridgefield Park, NJ 07660
Customer Care Center ☎	1-800-SAMSUNG (726-7864)	
Web Site	www.samsung.com/ca (English) www.samsung.com/ca_fr (French)	www.samsung.com/us

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SAMSUNG

Warning! Important Safety Instructions

Please read the safety instructions below before installing and using the product.

CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN.

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.

This symbol indicates that important literature concerning operation and maintenance has been included with this product.

- The slots and openings in the cabinet and in the back or bottom are provided for necessary ventilation. To ensure reliable operation of this apparatus, and to protect it from overheating, these slots and openings must never be blocked or covered.
  - Do not cover the slots and openings with a cloth or other materials.
  - Do not block the slots and openings by placing this apparatus on a bed, sofa, rug or other similar surface.
  - Do not place this apparatus in a confined space, such as a bookcase or built-in cabinet, unless proper ventilation is provided.
- Do not place this apparatus near or over a radiator or heat register, or where it is exposed to direct sunlight.
- Do not place a vessel containing water (vases etc.) on this apparatus, as this can result in a risk of fire or electric shock.
- Do not expose this apparatus to rain or place it near water (near a bathtub, washbowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool etc.). If this apparatus accidentally gets wet, unplug it and contact an authorized dealer immediately.
- Make sure to pull out the power cord from the outlet before cleaning.
- This apparatus use batteries. In your community, there might be regulations that require you to dispose of these batteries properly to protect the environment. Please contact your local authorities for disposal or recycling information.
- Do not overload wall outlets, extension cords, or adaptors beyond their capacity, since this can result in fire or electric shock.
- Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at the plug end, where connected to adaptors, and at the point where they exit from the apparatus.
- To protect this apparatus from a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the set due to lightning and power line surges.
- Before connecting the AC power cord to the DC adaptor outlet, make sure the voltage designation of the DC adaptor corresponds to the local electrical supply. (depending on the model)
- Never insert anything metallic into the open parts of this apparatus. Doing so may create a danger of electric shock.
- To avoid electric shock, never touch the inside of this apparatus. Only a qualified technician should open this apparatus.
- Make sure to plug the power cord in until it is firmly inserted. Pull on the plug, not the cord, when removing the power cord from the outlet. Do not touch the power cord with wet hands.
- If this apparatus does not operate normally - in particular, if there are any unusual sounds or smells coming from it - unplug it immediately and contact an authorized dealer or service center.
- Be sure to pull the power plug out of the outlet if the TV is to remain unused or if you are to leave the house for an extended period of time (especially when children, elderly or disabled people will be left alone in the house).
  - Accumulated dust can cause an electric shock, an electric leakage, or a fire by causing the power cord to generate sparks and heat, or cause the insulation to deteriorate.
- Be sure to contact an authorized service center, when installing your set in a location with heavy dust, high or low temperatures, high humidity, chemical substances or where it will operate for 24 hours a day such as in an airport, a train station, etc. Failure to do so may cause serious damage to your set.
- Use only a properly grounded plug and receptacle.
  - An improper ground may cause electric shock or equipment damage. (Class I Equipment only.)
- To turn off the apparatus completely, you must pull the power plug out of the wall socket. Consequently, the power plug should be readily accessible at all times.
- Do not allow children to hang onto the product.
- Store the accessories (batteries, etc.) in a location safely out of the reach of children.
- Do not install the product in an unstable location such as a shaky self, a slanted floor, or a location exposed to vibration.
- Do not drop or impart a shock to the product. If the product is damaged, disconnect the power cord and contact a service center.
- To clean the product, unplug the power cord from the power outlet and wipe the product using a soft cloth dipped in a small amount of water. Do not use any chemicals such as wax, benzene, alcohol, thinners, insecticide, air freshener, lubricant or detergent. This may damage the appearance or erase the printing on the product.
- Do not expose the apparatus to dripping or splashing.
- Do not dispose of batteries in a fire.
- Do not short circuit, disassemble, or overheat the batteries.
- There is a danger of explosion if you replace the batteries with the wrong type of battery. Replace only with the same or equivalent type.
- WARNING - TO PREVENT THE SPREAD OF FIRE, KEEP CANDLES OR OTHER OPEN FLAMES AWAY FROM THIS PRODUCT AT ALL TIMES.

Getting Started

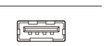
Accessories

- Remote Control (AA59-00600A) & Batteries (AAA x 2)
- Warranty Card / Regulatory Guide
- Owner's Instructions
- Power Cord
- AC/DC Adapter (for 19", 22" models)

Input Cables (Sold Separately)

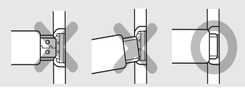
- Audio
- Composite (AV)
- Component
- Coaxial (RF)
- HDMI
- HDMI-DVI

Make sure you have the correct cable before plugging it in. Illustrations of common plugs and jacks are shown below.

	Cable Plugs	Ports/Jacks
HDMI		
USB		

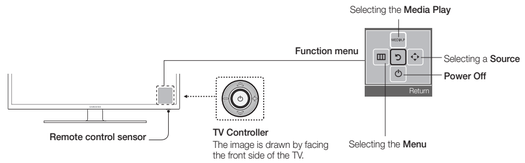
Do not plug cables in upside down. Be sure to check the orientation of the plug before plugging it in.

Do not plug in opposite or wrong direction. It could damage the TV port.



TV Controller (Panel Key)

The TV's Controller, a small joy stick like button on the rear left side of the TV, lets you control the TV without the remote control.



Exits the menu when pressing the controller more than 1 second.

When selecting the function by moving the controller to the up/down/left/right directions, be sure not to press the controller. If you press it first, you cannot operate it to move the up/down/left/right directions.

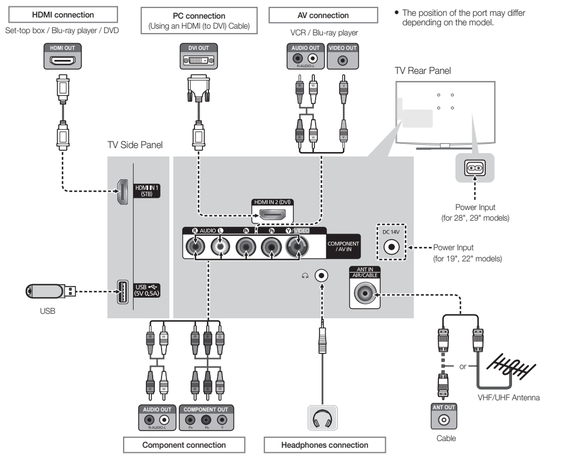
Plug & Play (Initial Setup)

When you turn the TV on for the first time, a sequence of screens and on-screen prompts will assist you in configuring the TV's basic settings. Press the POWER button. **Plug & Play** is available only when the Input source is set to TV. Set the initial setup following instructions that the TV guides.

Connecting the power cord and antenna. (refer to 'Connections')

Connections

- For the best picture and audio quality, connect digital devices using an HDMI cable.
- If you connect an external device to the TV that uses an older version of HDMI, the video and audio may not work. If this occurs, ask the manufacturer of the device about the HDMI version and, if it is out of date, request an upgrade.
- Be sure to purchase a certified HDMI cable. Otherwise, the picture may not display or a connection error may occur.
- **PC/DVI AUDIO IN** input is not supported.
- For an HDMI to DVI cable connection, you must use the HDMI IN 2 (DVI) port.
- Connecting through the HDMI cable may not be supported depending on the PC.
- If an HDMI to DVI cable is connected to the HDMI IN 2 (DVI) port, the audio does not work.
- For Set-top box connection using HDMI cable, we highly recommend you to connect the **HDMI IN 1** (STB) port.



- The position of the port may differ depending on the model.

Changing the Input Source

Source List

Use to select TV or an external input source such as a DVD player / Blu-ray player / cable box / STB satellite receiver.

1. Press the SOURCE button.
2. Select a desired external input source.

■ **TV / AV / Component / HDMI1 / HDMI2/DVI**

You can only choose external devices that are connected to the TV. In the **Source List**, connected inputs will be highlighted.

How to use Edit Name

Edit Name lets you associate a device name to an input source. To access **Edit Name**, press the TOOLS button in **Source List**. Name the device connected to the input jacks to make your input source selection easier.

When connecting a PC to the HDMI IN 2(DVI) port with HDMI cable, you should set the TV to **PC** mode under **Edit Name**.

When connecting a PC to the HDMI IN 2(DVI) port with HDMI to DVI cable, you should set the TV to **DVI PC** mode under **Edit Name**.

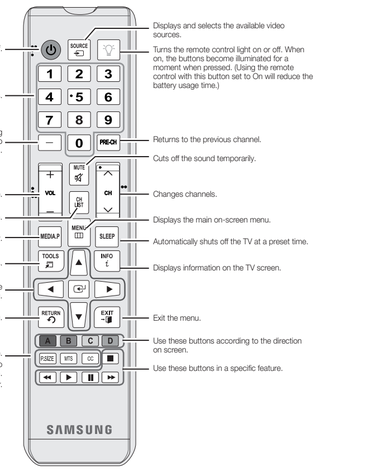
When connecting an AV devices to the HDMI IN 2(DVI) port with HDMI to DVI cable, you should set the TV to **DVI** mode under **Edit Name**.

Information

You can see detailed information about the connected external device.

Remote Control

This remote control has Braille points on the Power, Channel, and Volume buttons and can be used by visually impaired persons.

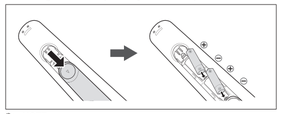

Turns the TV on and off.
Displays and selects the available video sources.
Turns the remote control light on or off. When on, the buttons become illuminated for a moment when pressed. (Using the remote control with this button set to On will reduce the battery usage time.)
Press to directly access to channels.
Press to select additional channels (digital) being broadcasted by the same station. For example, to select channel '54-3', press '54', then press '-' and '3'.
Returns to the previous channel.
Cuts off the sound temporarily.
Adjusts the volume.
Changes channels.
Displays the channel list on the screen.
Displays the main on-screen menu.
Views the Media Play.
Automatically shuts off the TV at a preset time.
Quickly select frequently used functions.
Displays information on the TV screen.
Selects the on-screen menu items and changes the values seen on the menu.
Returns to the previous menu.
Exit the menu.
P.SIZE: Lets you choose the picture size.
MTS: Press to choose stereo, mono or Separate Audio Program (SAP broadcast).
CC: Controls the caption decoder.
Use these buttons according to the direction on screen.
Use these buttons in a specific feature.
SOURCE
MUTE
VOL
CH
MENU
MEDIA.P
SLEEP
TOOLS
INFO
RETURN
EXIT
A
B
C
D
P.SIZE
MTS
CC
SAMSUNG

Display Modes (HDMI/DVI Input)

4 series & TD310:1366 x 768@60Hz / 5 series: 1920 x 1080@60Hz

Mode	Resolution	Horizontal Frequency (KHz)	Vertical Frequency (Hz)	Pixel Clock Frequency (MHz)	Sync Polarity (H / V)	1366 x 768	1920 x 1080
IBM	720 x 400	31.469	70.087	28.322	-/+	✓	✓
MAC	640 x 480	35	66.667	30.24	-/-	✓	✓
	832 x 624	49.726	74.551	57.284	-/-	✓	✓
VESA DMT	1152 x 870	68.681	75.062	100	-/-		✓
	640 x 480	31.469	59.94	25.175	-/-	✓	✓
	640 x 480	37.861	72.809	31.5	-/-	✓	✓
	640 x 480	37.5	75	31.5	-/-	✓	✓
	800 x 600	37.879	60.317	40	+/+	✓	✓
	800 x 600	48.077	72.188	50	+/+	✓	✓
	800 x 600	46.875	75	49.5	+/+	✓	✓
	1024 x 768	48.363	60.004	65	-/-	✓	✓
	1024 x 768	56.476	70.069	75	-/-	✓	✓
	1024 x 768	60.023	75.029	78.75	+/+	✓	✓
	1152 x 864	67.5	75	108	+/+		✓
	1280 x 720	45	60	74.25	+/+	✓	✓
	1280 x 800	49.702	59.81	83.5	-/+		✓
	1280 x 1024	63.981	60.02	108	+/+		✓
	1280 x 1024	79.976	75.025	135	+/+		✓
	1366 x 768	47.712	59.79	85.5	+/+	✓	✓
	1440 x 900	55.935	59.887	106.5	-/+		✓
	1600 x 900(RB)	60	60	108	+/+		✓
	1680 x 1050	65.29	59.954	146.25	-/+		✓
	1920 x 1080	67.5	60	148.5	+/+		✓

Installing batteries (Battery size: AAA)



NOTE
- Use the remote control within 23 feet from TV.
- Bright light may affect the performance of the remote control. Avoid use when nearby fluorescent lights or neon signs.
- The Color and shape may vary depending on the model.

Channel Menu

❑ Seeing Channels

Channel List

Add, delete or set Favorite channels and use the program guide for digital broadcasts. Select a channel in the **All Channels**, **Added Channels**, **Favorite** or **Programmed** screen by pressing the ▲/▼ buttons, and pressing the ENTER↵ button. Then you can watch the selected channel.

- **All Channels**: Shows all currently available channels.
- **Added Channels**: Shows all added channels.
- **Favorite**: Shows all favorite channels.
- **Programmed**: Shows all currently reserved programs.

Using the remote control buttons with the **Channel List**
- Green (**Zoom**): Enlarges or shrinks a channel number.
- Yellow (**Select**): Selects multiple channel lists. Select desired channels and press the Yellow button to set all the selected channels at the same time. The ✓ mark appears to the left of the selected channels.
- (**Tools**): Displays the **Channel List** option menu. (The Options menus may differ depending on the situation.)

Channel Status Display icons

- ✓ : A channel selected.
- ♥ : A channel set as a Favorite.
- ⏲ : A reserved program.
- : A program currently being broadcast.

❑ Memorizing channels

Antenna (Switch to Cable / Switch to Air TOOLS)

Before your television can begin memorizing the available channels, you must specify the type of signal source that is connected to the TV (i.e. an **Air** or a **Cable** system).

Auto Program

When selecting the Cable TV system: Selects the cable system, **STD**, **HRC** and **IRC** identify various types of cable TV systems. Contact your local cable company to identify the type of cable system that exists in your particular area. At this point, the signal source has been selected.

After all the available channels are stored, it starts to remove scrambled channels. The **Auto Program** menu then reappears.

Press the ENTER↵ button to stop the channel store during **Auto Program**.

How to Stop Auto Programming

1. Press the ENTER↵ button.
2. A message will ask **Stop Auto Program?**. Select **Yes** by pressing the ◄ or ► button.
3. Press the ENTER↵ button.

❑ Other Features

Clear Scrambled Channel

This function filters out scrambled channels after **Auto Program** is completed. This process may take up to 20~30 minutes.

Press the ENTER↵ button to stop the **Clear Scrambled Channel**.

This function is only available in **Cable** mode.

Channel List

Channel List Option Menu

Channel List → TOOLS

Set each channel using the **Channel List** menu options. Option menu items may differ depending on the channel status.

- **Add / Delete**: Delete or add a channel to display the channels you want.
  - All deleted channels will be shown on the **All Channels** menu.
  - A gray-colored channel indicates the channel has been deleted.
  - The **Add** menu only appears for deleted channels.
  - Delete a channel from the **Added Channels** or **Favorite** menu in the same manner.
- **Add to Favorite / Delete from Favorite** TOOLS: Set channels you watch frequently as Favorites.
- **Timer Viewing**: You can set a desired channel to be displayed automatically at the set time; even when you are watching another channel. Set the current time first to use this function.
  - Only memorized channels can be reserved.
  - Reserved programs will be displayed in the **Programmed** menu.
  - When a digital channel is selected, press the ► (**Next Program**) button to view the digital program. If you select the ENTER↵ (**Schedule**) button on the next program, you can set **Timer Viewing** directly.
- **Channel Name Edit**: (analog channels only) Assign your own channel name.
- **Select All**: Select all the channels in the channel list.
- **Deselect All**: Deselect all the selected channels.
  - You can only select **Deselect All** when one or more channels are selected.
- **Auto Program**: Scans for a channel automatically and stores in the TV.

Programmed

(in **Channel List**)

Channel List → Programmed → TOOLS

You can view, modify or delete a show you have reserved to watch.

- **Change Info**: Change a show you have reserved to watch.
- **Cancel Schedules**: Cancel a show you have reserved to watch.
- **Information**: Display a show you have reserved to watch. (You can also change the reservation Information.)
- **Select All / Deselect All**: You can select or deselect all channels in the channel list.

Channel Mode

Change the channel mode directly between **Added Channels** and **Favorite Channels**.

The **Favorite Channels** is enabled only when you set **Add to Favorite**.

Fine Tune

(analog channels only)

If the reception is clear, you do not have to fine tune the channel, as this is done automatically during the search and store operation. If the signal is weak or distorted, fine tune the channel manually.

Fine tuned channels that have been saved are marked with an asterisk "*" on the right-hand side of the channel number in the channel banner.

To reset the fine-tuning, select **Reset**.

Picture Menu

Mode TOOLS

Select your preferred picture type.

When connecting a PC, you can only select **Entertain** and **Standard**.

- **Dynamic**: Suitable for a bright room.
- **Standard**: Suitable for a normal environment.
- **Movie**: Suitable for watching movies in a dark room.
- **Entertain**: Suitable for watching movies and games.
  - Only available when connecting a PC.

Samsung MagicAngle for 19", 22" models

Adjust screen viewing Angle to optimize screen quality according to your viewing position.

- **Samsung MagicAngle**: When viewing the screen at an angle from below or above by setting the appropriate mode for each position you can obtain a similar picture quality as viewing the screen directly from the front.
  - **Off**: Select when viewing from the front position.
  - **Lean Back Mode**: Select when viewing from a slightly lower position.
  - **Standing Mode**: Select when viewing from the upper position.
- **Mode**: Adjust screen viewing angle.

When **Samsung MagicAngle** is set to **Lean Back Mode** or **Standing Mode**, **Gamma** is not available.

Backlight / Contrast / Brightness / Sharpness / Color / Tint (G/R)

Your television has several setting options for picture quality control.

When connecting a PC, you can only make changes to **Backlight**, **Contrast**, **Brightness** and **Sharpness**.

Advanced Settings

(available in **Standard / Movie** mode)

Compared to previous models, new Samsung TVs have a more precise picture.

When connecting a PC, you can only make changes to **Gamma** and **White Balance**.

- **Dynamic Contrast**: Adjusts the screen contrast.
- **Black Tone**: Selects the black level to adjust the screen depth.
- **Flesh Tone**: Emphasize pink "flesh tone".
- **Color Space**: Adjusts the range of colors available to create the image.
- **White Balance**: Adjusts the color temperature for a more natural picture.
  - **R-Offset / G-Offset / B-Offset**: Adjusts each color's (red, green, blue) darkness.
  - **R-Gain / G-Gain / B-Gain**: Adjusts each color's (red, green, blue) brightness.
  - **Reset**: Resets the **White Balance** to it's default settings.
- **Gamma**: Adjusts the primary color intensity.
- **Motion Lighting**: Reduce power consumption by brightness control adapted motion.

Available in **Standard** mode only.

Picture Options

When connecting a PC, you can only make changes to the **Color Tone**, **Size**, and **HDMI Black Level**.

- **Color Tone**
  - **Warm1** or **Warm2** will be deactivated when the picture mode is **Dynamic**.
- **Size**: Your cable box/satellite receiver may have its own set of screen sizes as well. However, we highly recommend you use 16:9 mode most of the time.
  - **16:9**: Sets the picture to 16:9 wide mode.
  - **Zoom1**: Use for moderate magnification.
  - **Zoom2**: Use for a stronger magnification.
  - **Wide Fit**: Enlarges the aspect ratio of the picture to fit the entire screen.
  - **4:3**: Sets the picture to basic (4:3) mode.

Do not watch in 4:3 format for a long time. Traces of borders displayed on the left, right and center of the screen may cause image retention (screen burn) which are not covered by the warranty.

Screen Fit: (DTV) Displays the full image without any cut-off when HDMI (720p / 1080i / 1080p) or Component (1080i / 1080p) signals are inputted.

HD (High Definition): 16:9 - 1080i/1080p (1920x1080), 720p (1280x720)

Settings can be adjusted and stored for each external device you have connected to an input on the TV.

Picture Sizes available by Input Source:

Input Source	Picture Size
ATV, AV, Component (480i, 480p)	16:9, Zoom1, Zoom2, 4:3
DTV(1080i, 1080p), Component (1080i, 1080p), HDMI (720p, 1080i, 1080p)	16:9, Wide Fit, 4:3, Screen Fit

- **Digital Clean View**: If the broadcast signal received by your TV is weak, you can activate the **Digital Clean View** feature to reduce any static and ghosting that may appear on the screen.
  - When the signal is weak, try other options until the best picture is displayed.
- **MPEG Noise Filter**: Reduces MPEG noise to provide improved picture quality.
- **HDMI Black Level**: Selects the black level on the screen to adjust the screen depth.
  - Available only in **HDMI** mode (RGB signals).
- **Film Mode**: Sets the TV to automatically sense and process film signals from all sources and adjusts the picture for optimum quality.
  - Available in ATV, DTV(Interlace), AV, COMPONENT (480i / 1080i) and HDMI (480i / 1080i).
- **LED Clear Motion**: Removes drag from fast scenes with a lot of movement to provide a clear picture.

Picture Reset

Resets your current picture mode to its default settings.

- **Reset Picture Mode**: Returns all picture values in the currently selected mode to the default settings.

Sound Menu

Mode TOOLS

- **Standard**: Selects the normal sound mode.
- **Music**: Emphasizes music over voices.
- **Movie**: Provides the best sound for movies.
- **Clear Voice**: Emphasizes voices over other sounds.
- **Amplify**: Increase the intensity of high-frequency sounds to allow a better listening experience for the hearing impaired.

Equalizer

(standard sound mode only)

- **Balance L/R**: Adjusts the balance between the right and left speaker.
- **100Hz / 300Hz / 1kHz / 3kHz / 10kHz (Bandwidth Adjustment)**: Adjusts the level of specific bandwidth frequencies.
- **Reset**: Resets the equalizer to its default settings.

DTS TruSurround

(standard sound mode only)

DTS TruSurround is a patented DTS technology that solves the problem of playing 5.1 multichannel content over two speakers. TruSurround delivers a compelling, virtual surround sound experience through any two-speaker playback system, including internal television speakers. It is fully compatible with all multichannel formats.

Preferred Language

(digital channels only)

Digital-TV broadcasts are capable of simultaneous transmission of many audio tracks (for example, simultaneous translations of the program into foreign languages).

You can only select a language from among the ones being broadcasted.

Multi-Track Sound

(analog channels only)

- **Mono**: Choose for channels that are broadcasting in mono or if you are having difficulty receiving a stereo signal.
- **Stereo**: Choose for channels that are broadcasting in stereo.
- **SAP**: Choose to listen to the Separate Audio Program, which is usually a foreign-language translation.

Depending on the program being broadcast, you can listen to **Mono, Stereo** or **SAP**.

Auto Volume

Because each broadcasting station has its own signal conditions, the volume may fluctuate each time channel is changed. This feature lets you automatically adjust the volume of the desired channel by lowering the sound output when the modulation signal is high or by raising the sound output when the modulation signal is low.

Speaker Select

If you are listening to the sound track of a broadcast or movie through an external receiver, you may hear a sound echo caused by the difference in decoding speed between the TV's speakers and the speakers attached to your audio receiver. If this occurs, set the TV to **External Speaker**.

When you set **Speaker Select** to **External Speaker**, the TV's speakers are turned off. You will hear sound through the external speakers only. When you set **Speaker Select** to **TV Speaker** both the TV's speakers and the external speakers are on. You will hear sound through both.

When **Speaker Select** is set to **External Speaker**, the VOLUME and MUTE buttons will not operate and the sound settings will be limited.

If there is no video signal, both the TV's speakers and the external speakers will be mute.

Visual Impaired

(digital channels only)

Adds verbal description to the main audio to help the visually impaired.

Sound Reset

- **Reset All**: Resets all sound settings to the factory defaults.

Setup Menu

Language

Set the menu language.

Choose between **English**, **Español**, and **Français**.

❑ Setting the Time

Time

The current time will appear every time you press the INFO button.

- **Clock**: Setting the clock is for using various timer features of the TV.
  - If you disconnect the power cord, you have to set the clock again.
  - **Clock Mode**: Set the current time manually or automatically.
  - **Clock Set**: Set the **Month**, **Day**, **Year**, **Hour**, **Minute** and **am/pm**.
  - Available only when **Clock Mode** is set to **Manual**.
  - **Time Zone**: Select your time zone.
  - **DST**: (Daylight Saving Time) Switches the DST (Daylight Saving Time) function on or off.
    - **DST** and **Time Zone** function is only available when the **Clock Mode** is set to **Auto**.
- **Sleep Timer** TOOLS

Automatically shuts off the TV after a preset period of time. (30, 60, 90, 120, 150 and 180 minutes).

To cancel the **Sleep Timer**, select **Off**.

Timer 1 / Timer 2 / Timer 3

Three different on / off timer settings can be made. You must set the clock first.

- **On Time / Off Time**: Set the hour, minute, am/pm and Activate / Inactivate. (To activate the timer with the setting you have chosen, set to **Activate**.)
- **Volume**: Set the desired volume level.
- **Contents**: When the **On Time** is activated, you can turn on a specific channel or play back contents such as photo or audio files.
  - **TV/USB**: Select **TV** or **USB**. (Make sure that an USB device is connected to your TV.)
  - **Antenna**: Displays the current antenna source.
  - **Channel**: Select the desired channel.
  - **Music/Photo**: Select the folder containing MP3/JPEG files on the USB device.
  - The maximum displayed number of files, including sub folders, in one folder of USB storage device is 2000.
  - The media may not be playing smoothly when using the device lower than USB 2.0.
- **Repeat**: Select **Once**, **Everyday**, **Mon~Fri**, **Mon~Sat**, **Sat~Sun** or **Manual** to set at you convenience. If you select **Manual**, you can set up the day you want to activate the timer.

❑ Other Features

Game Mode

When connecting to a game console such as PlayStation™ or Xbox™, you can enjoy a more realistic gaming experience by selecting the game menu.

Precautions and limitations for game mode
- To disconnect the game console and connect another external device, set **Game Mode** to **Off** in the setup menu.
- If you display the TV menu in **Game Mode**, the screen shakes slightly.
- **Game Mode** is not available when the input source is set to **TV**.
- After connecting the game console, set **Game Mode** to **On**. Unfortunately, you may notice reduced picture quality.

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Program Rating Lock

The **Program Rating Lock** feature automatically locks out programs that are deemed inappropriate for children. The user must enter a PIN (personal identification number) before any of the Program Rating Lock restrictions are set up or changed.

✎ **Program Rating Lock** is not available in **HDMI** or **Component** mode.

✎ The default PIN number of a new TV set is "0-0-0-0".

■ **Program Rating Lock**: You can block rated TV Programs.

■ **TV Parental Guidelines**: You can block TV programs depending on their rating. This function allows you to control what your children are watching.

■ **MPAA Rating**: You can block movies depending on their MPAA rating. The Motion Picture Association of America (MPAA) has implemented a rating system that provides parents or guardians with advanced information on which films are appropriate for children.

■ **Canadian English**: You can block TV programs depending on their Anglophone Canadian.

■ **Canadian French**: You can block TV programs depending on their French Canadian rating.

■ **Downloadable U.S. Rating**: Parental restriction information can be used while watching DTV channels.

■ **Change PIN**: The Change PIN screen will appear. Choose any 4 digits for your PIN and enter it in **Enter New PIN**. Re-enter the same 4 digits in **Confirm New PIN**. When the Change PIN screen disappears, press the OK button. The TV has memorized your new PIN.

✎ If you forget the PIN, press the remote-control buttons in the following sequence, which resets the pin to "0-0-0-0" : POWER (off) → MUTE → 8 → 2 → 4 → POWER (on)

Caption

(On-Screen Text Messages)

■ **Caption**: You can switch the caption function on or off. If captions are not available, they will not be displayed on the screen.

✎ The **Caption** feature does not work in **Component** or **HDMI** mode.

■ **Caption Mode**: You can select the desired caption mode.
Default / CC1~CC4 / Text1~Text4: (analog channels only) The Analog Caption function operates in either analog TV channel mode or when a signal is supplied from an external device to the TV. (Depending on the broadcasting signal, the Analog Caption function may or may not work with digital channels.)
Default / Service1~Service6 / CC1~CC4 / Text1~Text4: (digital channels only) The Digital Captions function works with digital channels.

✎ **Service1~6** may not be available in digital caption mode depending on the broadcast.

■ **Digital Caption Options**: (digital channels only)
Size: Options include Default, Small, Standard and Large. The default is Standard.
Font Style: Options include Default and Styles 0 to 7. The default is Style 0.
Foreground Color: Options include Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan.
You can change the color of the letter. The default is White.
Background Color: Options include Default, White, Black, Red, Green, Blue, Yellow, Magenta and Cyan. You can change the background color of the caption. The default is Black.
Foreground Opacity: This adjusts the opacity of text. Options include Default, Transparent, Translucent, Solid and Flashing.
Background Opacity: This adjusts the opacity of the caption background. Options include Default, Transparent, Translucent, Solid and Flashing.
Return to Default: This option sets each Size, Font Style, Foreground Color, Background Color, Foreground Opacity and Background Opacity to its default.

✎ **Digital Caption Options** are available only when **Default** and **Service1~Service6** can be selected in **Caption Mode**.

✎ The Foreground and Background cannot be set to have the same color.

Melody

Set so that a melody plays when the TV is turned on or off.

✎ The **Melody** does not play.
- When no sound is output from the TV because the MUTE button has been pressed.
- When no sound is output from the TV because the volume has been reduced to minimum with the VOL – button.
- When the TV is turned off by **Sleep Timer** function.

Eco Solution

■ **Energy Saving**: This adjust the brightness of the TV in order to reduce power consumption. If you select **Picture Off**, the screen is turned off, but the sound remains on. Press any button except volume button to turn on the screen.

■ **No Signal Power Off** : Sets how quickly the TV switches to standby mode, if no picture is being received.

✎ Disabled when the PC is in power saving mode.

■ **Auto Power Off**: The TV will be automatically turned off when no user operation is received for 4 hours.

Auto Protection Time

If the screen remains idle with a still image for a certain period of time defined by the user, the screen saver is activated to prevent the formation of ghost images on the screen.

Support Menu

Self Diagnosis

■ **Picture Test**: Use to check for picture problems. If the problem continues to occur, check the color pattern.

■ **Sound Test**: Use the built-in melody sound to check for sound problems.

■ **Signal Strength**: (digital channels only) An HD channel's reception quality is either perfect or the channels are unavailable. Adjust your antenna to increase signal strength.

■ **Reset**: Reset all settings to the factory defaults.

✎ The PIN input screen appears before the setup screen.

✎ Enter your 4-digit PIN. Change the PIN using the **Change PIN** option.

Software Upgrade

Software Upgrade can be performed by downloading the latest firmware from samsung.com to a USB memory device.

HD Connection Guide

Refer to this information when connecting external devices to the TV.

Contact Samsung

View this information when your TV does not work properly or when you want to upgrade the software. You can find information regarding our call centers and how to download products and software.

Media Play

Enjoy photos, music and/or movie files saved on a USB Mass Storage Class (MSC) device.

Connecting a USB Device

1. Turn on your TV.
2. Connect a USB device containing photo, music and/or movie files to the USB jack on the side of the TV.
3. When USB is connected to the TV, you can select **Media Play (USB)** in **Applications** menu.

❑ Using the Media Play Menu

1. Press the MENU button. Press the ▲ or ▼ button to select **Applications**, then press the ENTER↵ button.
2. Press the ▲ or ▼ button to select **Media Play (USB)**, then press the ENTER↵ button.
3. Press the ◄ or ► button to select an icon (**Videos, Music, Photos, Settings**), then press the ENTER↵ button.

✎ It might not work properly with unlicensed multimedia files.

✎ Need-to-Know List before using **Media Play (USB)**
- Supported file systems are FAT and NTFS.
- Certain types of USB Digital camera and audio devices may not be compatible with this TV.
- **Media Play** only supports USB Mass Storage Class (MSC) devices. MSC is a Mass Storage Class Bulk-Only Transport device. Examples of MSC are Thumb drives and Flash Card Readers. Devices should be connected directly to the TV's USB port. USB HDD is not supported.
- Before connecting your device to the TV, please back up your files to prevent them from damage or loss of data. SAMSUNG is not responsible for any data file damage or data loss.
- A USB device that requires high power (more than 0.5A) may not be supported.
- Do not disconnect the USB device while it is loading.
- The higher the resolution of the image, the longer it takes to display on the screen.
- The maximum supported JPEG resolution is 15360 x 8640 pixels.
- If a file is corrupted or the TV does not support the file type, the "Not Supported File Format" message appears.
- The TV cannot play MP3 files with DRM that have been downloaded from a for-pay site. Digital Rights Management (DRM) is a technology that supports the creation, distribution, and management of digital content in an integrated and comprehensive way, including protecting the rights and interests of content providers, preventing illegal copying of contents, and managing billings and settlements.
- PTP device is not supported.
- If an over-power warning message is displayed while you are connecting or using a USB device, the device may not be recognized or may malfunction.
- If the TV has no input during the time set in **Auto Protection Time**, the Screensaver will run.
- The power-saving mode of some external hard disk drives may be released automatically when your connect them to the TV.
- If you use a USB extension cable, the TV may not recognize the USB device or may not be able to read the files on the device.
- If a USB device connected to the TV is not recognized, the list of files on the device is corrupted, or a file in the list is not played, connect the USB device to a PC, format the device, and check the connection.
- If a file you deleted from the PC is still found when you run **Media Play**, use the "Empty the Recycle Bin" function on the PC to permanently delete the file.
- **Photos** only supports sequential jpeg format.
- The scene search and thumbnail functions are not supported in the **Videos**.
- If the number of files and folders saved on a USB storage device is approximately over 4000, the files and folders may not appear and some folders may not be opened.
- The maximum displayed number of files, including sub folders, in one folder of USB storage device is 2000.
- The media may not be playing smoothly when using the device lower than USB 2.0.

Videos

1. Press the ◄/► buttons to select **Videos**, then press the ENTER↵ button in the **Media Play** menu.
2. Press the ◄/►/▲/▼ buttons to select the desired video in the file list.
3. Press the ENTER↵ button or ▶ (Play) button.
   - The selected file is displayed on the top with its playing time.
   - If video time information is unknown, playing time and the progress bar are not displayed.
   - During video playback, you can search using the ◄/► buttons.

✎ In this mode, you can play movie clips contained in a game, but you cannot play the game itself.

• Supported Subtitle Formats
- External

Name	File extension
MPEG-4 timed text	.ttxt
SAMI	.smi
SubRip	.srt
SubViewer	.sub
Micro DVD	.sub or .txt
SubStation Alpha	.ssa
Advanced SubStation Alpha	.ass

- Internal

Name	Container	Format
Xsub	AVI	Picture Format
SubStation Alpha	MKV	Text Format
Advanced SubStation Alpha	MKV	Text Format
SubRip	MKV	Text Format
MPEG-4 Timed text	MP4	Text Format

• Supported Video Formats

File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.mp4	MP4	Divx3.11/4.x/ 5.1/6.0	1920x1080	6~30	30Mbps	MP3 / ADPCM / AAC
		H264	1920x1080	6~30	30Mbps	
		AVC	1920x1080	6~30	30Mbps	
		MJPEG	640x480	6~30	10Mbps	
*.avi *.mkv*	*AVI MKV*	Divx3.11/4.x/ 5.1/6.0	1920x1080	6~30	30Mbps	*MP3 / AC3 / LPCM / ADPCM / DTS Core*
		MPEG4 SP/ ASP	1920x1080	6~30	30Mbps	
		H264	1920x1080	6~30	30Mbps	
		MJPEG	640x480	6~30	10Mbps	
*.asf *.wmv*	ASF	Divx 3.11/4.x/ 5.1/6.0	1920x1080	6~30	30Mbps	*MP3 / AC3 / LPCM / ADPCM / WMA / WMA Pro*
		MPEG4 SP/ ASP	1920x1080	6~30	30Mbps	
		H.264	1920x1080	6~30	30Mbps	

File Extension	Container	Video Codec	Resolution	Frame rate (fps)	Bit rate (Mbps)	Audio Codec
*.ts *.trp *.tp *.m2ts*	TS	MPEG2	1920x1080	6~30	30Mbps	AC3 / AAC / MP2 / DD+ / HE-AAC
		H. 264 BP/ MP/HP	1920x1080	6~30	30Mbps	
*.dat *.mpg *.mpeg *.vob*	PS	MPEG1	1920x1080	24/25/30	30Mbps	AC3 / MPEG / LPCM / AAC
		MPEG2	1920x1080	24/25/30	30Mbps	
		H. 264 BP/ MP/HP	1920x1080	6~30	30Mbps	
*.3gp	3GPP	MPEG4 SP/ ASP	1920x1080	6~30	30Mbps	MP3
		H.264	1920x1080	6~30	30Mbps	
*.flv	flash formats	H.264	1920x1080	6~30	30Mbps	MP3
		Sorenson H.263	1920x1080	6~30	30Mbps	

Other Restrictions

- Video content will not play, or not play correctly, if there is an error in the content or the container.
- Sound or video may not work if the contents have a standard bit rate/ frame rate above the compatible Frame/sec listed in the table above.
- If the Index Table is in error, the Seek (Jump) function is not supported.
- The menu may take longer to appear if the video's bit rate exceeds 10Mbps.
- Video content can not be played, if there are many contents in one file.

Video Decoder	Audio Decoder
Supports up to H.264, Level 4.1 H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported. MPEG4 SP, ASP : – Below 1280 x 720: 60 frame max – Above 1280 x 720: 30 frame max H.263 is not supported. GMC is not support.	Supports up to WMA7, 8, 9 STD, 9 PRO, and 10 PRO WMA 9 PRO and WMA 10 PRO support 5.1 channel. (LBR mode of WMA Pro is not supported.) WMA Lossless is not supported.

Music

1. Press the ◄/► buttons to select **Music**, then press the ENTER↵ button in the **Media Play** menu.
2. Press the ◄/►/▲/▼ buttons to select the desired Music in the file list.
3. Press the ENTER↵ button or ▶ (Play) button.

✎ During music playback, you can search using the ◄/► buttons.

✎ ◀◀ (REW) and ▶▶ (FF) buttons do not function during play.

✎ Only displays the files with MP3 file extensions. Other file extensions are not displayed, even if they are saved on the same USB device.

✎ If the sound is abnormal when playing MP3 files, adjust the **Equalizer** in the **Sound** menu. (An over-modulated MP3 file may cause a sound problem.)

Photos

1. Press the ◄/► buttons to select **Photos**, then press the ENTER↵ button in the **Media Play** menu.
2. Press the ◄/►/▲/▼ buttons to select the desired photo in the file list.
3. Press the ENTER↵ button or ▶ (Play) button.

✎ NOTE
- While a photo list is displayed, press the ▶ (Play) / ENTER↵ button on the remote control to start the slide show.
- All files in the file list section will be displayed in the slide show.
- During the slide show, files are displayed in order.
- During the slide show, you can adjust the slide show speed using ◀◀ (REW) or ▶▶ (FF) button.
- You can move to other file using the ◄/► buttons.

• Supported Photo Formats

Image	Photo	Resolution
JPEG	Base-line	15360 x 8704
	Progressive	1024 x 768

Other Restrictions

• CMYK and YCCK Color space JPEGs are not supported.

Playing Multiple Files

■ **Playing selected video/music/photo files**

1. Press the Yellow button in the file list to select the desired file.
2. Repeat the above operation to select multiple files.

✎ **NOTE**
- The ✓ mark appears to the left of the selected files.
- To cancel a selection, press the Yellow button again.
- To deselect all selected files, press the TOOLS button and select **Deselect All**.

3. Press the TOOLS button, and then select **Play Selected Contents**.

■ **Playing the video/music/photo file group**

1. While a file list is displayed, move to any file in desired group.
2. Press the TOOLS button, and then select **Play Folder**.

Media Play - Additional Functions

■ **Videos/Music/Photos Play Option menus**

When playing a file, press the TOOLS button.

Category	Operation	Videos	Music	Photos
Title	You can move the other file directly.	✓		
Repeat Mode	You can play movie and music files repeatedly.	✓	✓	
Picture Size	You can adjust the picture size to your preference.	✓		
Picture Mode	You can adjust the picture setting.	✓		✓
Sound Mode	You can adjust the sound setting.	✓	✓	✓
Subtitle Settings	You can play the video with Subtitles. This function only works if the subtitles are the same file name as the video.	✓		
Audio Format	You can select the digital audio output format.	✓		
Audio Language	You can change the audio language if the video has more than one language.	✓		
Stop Slide Show / Start Slide Show	You can start or stop a Slide Show.			✓
Slide Show Speed	You can select the slide show speed during the slide show.			✓
Background Music	You can set and select background music when watching a Slide Show.			✓
Zoom	You can zoom into images in full screen mode.			✓
Rotate	You can rotate images in full screen mode.			✓
Information	You can see detailed information about the played file.	✓	✓	✓

Settings

Using the Setup Menu

■ **DivX® Video On Demand**: Shows the registration code authorized for the TV. If you connect to the DivX web site and register with 10-digit registration code, you can download the VOD activation file. Once you play it using Media Play, the registration is completed.

✎ For more information on DivX® VOD, visit "http://vod.divx.com".

■ **Information**: Select to view information on the connected device.

Other Information

Installing the Wall Mount Kit

The wall mount kit (sold separately) allows you to mount the TV on the wall.

For detailed information on installing the wall mount, see the instructions provided with the wall mount items. Contact a technician for assistance when installing the wall mount bracket. Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.

Wall Mount Kit Specifications (VESA)

✎ The wall mount kit is not supplied, but sold separately.

Install your wall mount on a solid wall perpendicular to the floor. When attaching to other building materials, please contact your nearest dealer. If you install the TV on a ceiling or slanted wall, it may fall and result in severe personal injury.

✎ **NOTE**
- Standard dimensions for wall mount kits are shown in the table below.
- When purchasing our wall mount kit, a detailed installation manual and all parts necessary for assembly are provided.
- Do not use screws that do not comply with the VESA standard screw specifications.
- Do not use screws that are longer than the standard dimension or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the TV set.
- For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on the wall mount specifications.
- Do not fasten the screws too firmly. This may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not mount the TV at more than a 15 degree tilt.
- Always have two people mount the TV on a wall.

Product Family	TV size in inches	VESA screw hole specs (A * B) in millimeters	Standard Screw	Quantity
LED-TV	19~22	75 X 75	M4	4
	26-29	100 X 100		
	32-42	200 X 200	M8	
	46~60	400 X 400		

Do not install your Wall Mount Kit while your TV is turned on. It may result in personal injury due to electric shock.

Securing the TV to the Wall

Caution: Pulling, pushing, or climbing onto the TV may cause the TV to fall. In particular, ensure that your children do not hang over or destabilize the TV; doing so may cause the TV to tip over, resulting in serious injuries or death. Follow all safety precautions provided on the included Safety Flyer. For added stability, install the anti-fall device for safety purposes, as follows.

To prevent the TV from falling

✎ Since the necessary clamps, screws, and string are not supplied, please purchase these additionally.

1. Drive the screws into the clamps and firmly fasten them onto the wall. Make sure the screws are firmly fixed into the wall.
2. Remove the screws from the back center of the TV, put the screws into the clamps, and then fasten the screws onto the TV again.
3. Connect the clamps fixed onto the TV and the clamps fixed onto the wall with a strong cable and then tie the string tightly.

✎ Verify all connections are properly secured. Periodically check the connections for any sign of fatigue or failure. If you have any doubt about the security of your connections, contact a professional installer.

✎ Install the TV close to the wall so that it does not fall.

✎ It is safe to connect the string so that the clamps fixed on the wall are equal to or lower than the clamps fixed on the TV. Untie the string before moving the TV.

Kensington Lock

The Kensington Lock is not supplied by Samsung. It is a device used to physically fix the system when using it in a public place. Refer to the manual provided with the Kensington Lock for additional information on proper use.

✎ Please find a "⍾" icon on the rear of the TV. The Kensington slot is beside the "⍾" icon.

✎ The position and color may differ depending on the model.

Caution of the cover-jack

for 4 series

CAUTION: The cover-jack is for use by qualified service personnel only. To reduce the risk of electric shock or fire hazard, do not use the cover jack, unless you are qualified to do so.

✎ The rear panel may differ depending on the model.

Troubleshooting

If the TV seems to have a problem, first review this list of possible problems and solutions. If none of these troubleshooting tips apply, visit samsung.com, then click on Support, or call Samsung customer service at 1-800-SAMSUNG.

Problem	Possible Solution
Flickering and Dimming	If your Samsung Television is flickering or dimming sporadically, you may need to disable some of its energy efficient features like the **Energy Saving** feature. If you follow below step with your remote, you can turn these features off or on. • **Energy Saving** : MENU → **Setup** → **Eco Solution** → **Energy Saving**
Component Connections / Screen Color	If you find that the color on your Samsung television's screen is not correct or black and White, first run a **Self Diagnosis** on the TV to make sure there are no device issues. • **Self Diagnosis** : MENU → **Support** → **Self Diagnosis** → **Picture Test** If the test is ok, try making sure: • Your connections are all consistent. For example, if you've used the AV In jack on your TV, make sure you have used the AV Out jack on your video source. • Try making sure you have connected to the correct jacks. For example, if you use the Component jacks, labeled Pb, Pr, and Y, to connect your TV and video source, make sure you have connected the blue Pb jack on the video source to the blue Pb jack on the TV, the red Pr jack on the source to the red Pr jack on the TV.
Screen Brightness	If you find that the colors on your Samsung TV are correct but just a little too dark or bright, there are some settings you should check before calling for a repair. • **Backlight**, **Contrast**, **Brightness**, **Sharpness**, **Color**, **Tint (G/R)** and so on. Go in to "**Picture**" on user Menu then try adjusting options mentioned above.
Unwanted Powering off	If your Samsung TV appears to turn off by itself, there may be an issue with either your Timer settings or your Eco friendly **No Signal Power Off** feature. First make sure you **Sleep Timer** is not accidentally set. The sleep timer allows you the comfort of falling asleep with the TV still on but, turns it off after a certain period of time so as not to waste energy. • **Sleep Timer** : MENU → **Setup** → **Time** → **Sleep Timer** If the Sleep Timer is not activated, you may have engaged the **No Signal Power Off** or **Auto Power Off** feature. • **No Signal Power Off** : MENU → **Setup** → **Eco Solution** → **No Signal Power Off** • **Auto Power Off** : MENU → **Setup** → **Eco Solution** → **Auto Power Off**
Trouble Powering On	**Before Turn on check red light on the right or left bottom of your TV. Press power on button on TV or remote and it will blink about 5 times before turning on.** If you find that you are having trouble powering on your Samsung television, there are a number of things to check before making a call to the service department. • If you happen to be using the TV as a monitor and the stand-by light only blinks for a few seconds when you press the power button, your PC is in sleep mode. To take your PC out of sleep mode, press a key on your keyboard or move the mouse. Then try turning your TV on. If you're sure your power cord, remote control, and PC are functioning properly, you may be having a cable issue. If you have a cable or satellite box, your TV may appear to be off because the cable or satellite box is not outputting a signal. To test the signal output of your cable or satellite box, press the guide or info button on the cable or satellite box remote control. If the screen displays the guide or info data, the problem is caused by the box.
Stand Assembly	If you have any trouble to assemble the stand though you refer to "Install the Stand" mentioned at separate guide.
Cannot find channel	Re-run plug and play.
Poor picture	First, perform the **Picture Test** and to see if your TV is properly displaying the test image. Go to MENU - **Support** - **Self Diagnosis** - **Picture Test** If the test image is properly displayed, the poor picture may be caused by the source or signal.
The TV image does not look as good as it did in the store.	If you have an analog cable/satellite box, upgrade to a digital set top box. Use HDMI or Component cables to deliver HD (high definition) picture quality. Cable/Satellite subscribers: Try HD channels from the channel line up. Air/Cable Antenna connection: Try HD channels after performing Auto program. ✎ Many HD channels are up scaled from SD(Standard Definition) contents. • Adjust the Cable/Set top box video output resolution to 1080i or 720p.
The picture is distorted: macroblock error, small block, dots, pixelization.	• Compression of video contents may cause picture distortion, especially on fast moving pictures such as sports and action movies. • A weak signal can cause picture distortion. This is not a TV problem. • Mobile phones used close to the TV (within 3.3ft) may cause noise in the picture on analog and digital channels.
Color is wrong or missing.	If you're using a component connection, make sure the component cables are connected to the correct jacks. Incorrect or loose connections may cause color problems or a blank screen.
There is poor color or brightness.	• Adjust the Picture options in the TV menu. (Go to **Picture Mode / Color / Brightness / Sharpness**) • Adjust the **Energy Saving** option in the TV menu. (Go to MENU - **Setup** - **Eco Solution** - **Energy Saving**) • Try resetting the picture to view the default picture setting. (Go to MENU - **Picture** - **Picture Reset**)
There is a dotted line on the edge of the screen.	• If the picture size is set to **Screen Fit**, change it to 16:9. • Change the cable/satellite box resolution.
The picture is black and white.	If you are using an AV composite input, connect the video cable (yellow) to the Green jack of component input 1 on the TV.

When changing channels, the picture freezes or is distorted or delayed.	• If connected to a cable box, please try to reset it. (Reconnect the AC cord and wait until the cable box reboots. It may take up to 20 minutes) • Set the output resolution of the cable box to 1080i or 720p.
Sound Problem	First of all, please perform the **Sound Test** to confirm that your TV audio is properly operating. (Go to MENU - **Support** - **Self Diagnosis** - **Sound Test**) If the audio is OK, the sound problem may caused by the source or signal.
There is no sound or the sound is too low at maximum volume.	Please check the volume of the device (Cable/Sat Box, DVD, Blu-ray, etc.) connected to your TV.
The picture is good but there is no sound.	• If you are using an external device, check the device's audio output option (ex. you may need to change your cable box's audio option to HDMI when you have a HDMI connected to your TV). • Reboot the connected device by reconnecting the device's power cable.
The speakers are making an inappropriate noise.	• Check the cable connections. Make sure a video cable is not connected to an audio input. • For Antenna or Cable connections, check the signal information. A weak signal may cause sound distortion. • Perform the **Sound Test** as explained above.
No Picture, No Video	
The TV will not turn on.	• Make sure the AC power cord is securely plugged into the wall outlet and the TV. • Make sure the wall outlet is working. • Try pressing the POWER button on the TV to make sure the problem is not the remote. If the TV turns on, refer to "Remote control does not work" below.
The TV turns off automatically.	• Ensure the **Sleep Timer** is set to **Off** in the **Time** menu. • If your PC is connected to the TV, check your PC power settings. • Make sure the AC power cord is plugged in securely to the wall outlet and the TV. • When you are watching TV connected to an antenna or cable connection, the TV will turn off after 10 - 15 minutes if there is no signal.
There is no picture/video.	• Check the cable connections. (Remove and reconnect all cables connected to the TV and external devices). • Set your external device's (Cable/Sat Box, DVD, Blu-ray etc) video outputs to match the connections to the TV input. For example, if an external device's output is HDMI, it should be connected to an HDMI input on the TV. • Make sure your connected devices are powered on. • Be sure to select the TV's correct source by pressing the SOURCE button on the remote control. • Reboot the connected device by reconnecting the device's power cable.
RF(Cable/Antenna) Connection	
The TV is not receiving all channels.	• Make sure the coaxial cable is connected securely. • Please try Auto Program to add available channels to the channel list. go to MENU - **Channel** - **Auto Program** then select **Auto** and make sure the correct Cable TV signal type is set in the menu. There are 3 options. (**STD**, **HRC** and **IRC**) • Verify the antenna is positioned correctly.
No Caption on digital channels.	• Check the Caption Setup menu. Try changing **Caption Mode Service1** to **CC1**. • Some channels may not have caption data.
The picture is distorted: macroblock, error, small block, dots, pixelization.	• Compression of video contents may cause picture distortion. Especially on fast moving pictures such as sports and action movies. • A weak signal can cause picture distortion. This is not a TV problem.
Others	
Purple/green rolling horizontal bars and buzzing noise from the TV speakers with Component cable connection.	Remove the left and right audio connections from the set-top-box. If the buzzing stops, this indicates that the set-top-box has a grounding issue. Replace the Component video cables with an HDMI connection.
The picture will not display in full screen.	• HD channels will have black bars on either side of the screen when displaying up scaled SD (4:3) contents. • Black bars on the Top & Bottom will be shown on movies that have aspect ratios different from your TV. • Adjust the picture size option on your external device or change the TV to full screen.
The remote control does not work.	• Replace the remote control batteries with correct polarity (+/–). • Clean the transmission window located on the top of the remote control. • Try pointing the remote directly at the TV from 5–6 feet away.
The cable/set top box remote control does not turn the TV on or off, or adjust the volume.	Program the Cable/Set top box remote control to operate the TV. Refer to the Cable/Set top box user manual for the SAMSUNG TV code.
A "**Mode Not Supported**" message appears.	Check the supported resolution of the TV and adjust the external device's output resolution accordingly. Refer to resolution settings in this manual.
Caption on the TV menu is greyed out.	• You cannot select **Caption** in the TV menu when watching content from a device connected via HDMI or Component. • **Caption** must be activated on the external device.
There is a plastic smell from the TV.	This smell is normal and will dissipate over time.

TV **Signal Strength** is unavailable in the **Self Diagnosis** Test menu.	This function is only available for digital channels from an Antenna / RF / Coax connection.
TV is tilted to the right or left side.	Remove the stand base from the TV and reassemble it.
The **Channel** menu is greyed out (unavailable).	The **Channel** menu is only available when you select the TV source.
Your settings are lost after 30 minutes or every time the TV is turned off.	If TV is in the **Store Demo** mode, it will reset audio and picture settings every 30 minutes. Please change from **Store Demo** mode to **Home Use** mode using the **Plug & Play** procedure. Press the SOURCE button to select TV mode, go to MENU → **Setup** → **Plug & Play** → ENTER↵.
You have intermittent loss of audio or video.	Check the cable connections and reconnect them. Loss of audio or video can be caused by using overly rigid or thick cables. Make sure the cables are flexible enough for long term use. If mounting the TV to the wall, we recommend using cables with 90 degree connectors.
You see small particles when you look closely at the edge of the frame of the TV.	This is part of the product's design and is not a defect.
POP (TV's internal banner ad) appears on the screen.	Select **Home Use** under **Plug & Play** mode. For details, refer to **Plug & Play** (Initial Setup).

✎ This TFT LED panel uses a panel consisting of sub pixels which require sophisticated technology to produce. However, there may be a few bright or dark pixels on the screen. These pixels will have no impact on the performance of the product.

✎ Watch these troubleshooting on video at www.samsung.com/spsn.

✎ Some functions and pictures shown in this manual are available on specific models only.

✎ You can keep your TV as optimum condition to upgrade the latest firmware on web site (samsung.com → Support → Downloads) by USB.

Storage and Maintenance

✎ If you attached some stickers on the TV screen, it remains some debris after removing the sticker. Please clean it to watch TV.

✎ The exterior and screen of the product can get scratched during cleaning. Be sure to wipe the exterior and screen carefully using a soft cloth to prevent scratches.

Do not spray water directly onto the product. Any liquid that goes into the product may cause a failure, fire, or electric shock.

Clean the product with a soft cloth dampened with in a small amount of water. Do not use a flammable liquid (e.g. benzene, thinners) or a cleaning agent.

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Specifications

Environmental Considerations				
Operating Temperature	50°F to 104°F (10°C to 40°C)			
Operating Humidity	10% to 80%, non-condensing			
Storage Temperature	-4°F to 113°F (-20°C to 45°C)			
Storage Humidity	5% to 95%, non-condensing			
Model Name	**UN19F4000**	**UN22F5000**	**UN28F4000 / LT28D310NH**	**UN29F4000**
Display Resolution	1366 x 768	1920 x 1080	1366 x 768	1366 x 768
Screen Size (Diagonal)	19" Class (18.5" measured diagonally)	22" Class (21.5" measured diagonally)	28" Class (27.5" measured diagonally)	29" Class (28.5" measured diagonally)
Sound Output	3W x 2		5W x 2	
Dimensions (W x H x D) Body	17.8 X 11.2 X 1.9 inches (453.7 X 285.8 X 49.5 (mm))	20.2 X 12.6 X 1.7 inches (513.1 X 321.5 X 43.8 (mm))	25.3 X 15.3 X 1.9 inches (645.0 X 389.4 X 49.5 (mm))	26.3 X 15.5 X 1.9 inches (668.6 X 394.7 X 49.5 (mm))
With stand	17.8 X 12.3 X 4.9 inches (453.7 X 314.2 X 124.9 (mm))	20.2 X 14.4 X 6.6 inches (513.1 X 366.5 X 169.6 (mm))	25.3